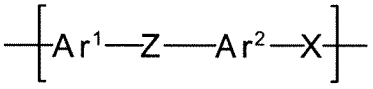
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

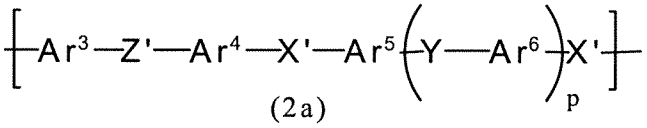
1. (Previously Presented) A direct methanol-type fuel cell comprising methanol and a polymer electrolyte comprising the polymer main chain having the oxygen element and/or sulfur element and the aromatic carbon ring, and the ion exchange group being directly bonded to a part or all of the aromatic carbon ring, wherein the ratio (R) of the number of the aromatic condensed cyclic carbon ring to the number of all of the aromatic carbon ring (number of aromatic condensed polycyclic carbon ring/number of all of the aromatic carbon ring) in the polymer electrolyte satisfies the formula below,

$1 > R \geq 0.15$

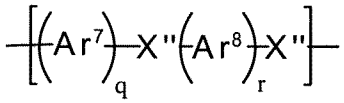
2. (Previously Presented) The direct methanol-type fuel cell of claim 1, wherein the polymer electrolyte comprises one or more of the repeating unit having the ion exchange group selected from the general formula (1a) to (4a),



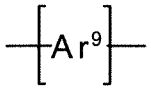
(1a)



(2a)



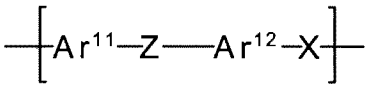
(3a)



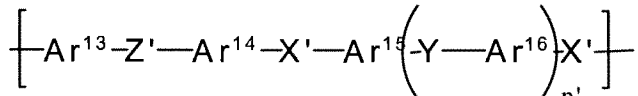
(4a)

(wherein Ar^1-Ar^9 represents a divalent aromatic carbon ring, which may have a substituent independent of each other and have an ion exchange group in the aromatic carbon ring. When the substituent on Ar^1-Ar^9 has an aromatic carbon ring, said aromatic carbon ring may have the ion exchange group. Z and Z' represent either CO or SO_2 independent of each other, whereas X, X' and X" represent either O or S independent of each other. Y represents a direct bond or a methylene group, which may have a substituent. p represents 0, 1 or 2, whereas q and r represent 1, 2 or 3 independent of each other,)

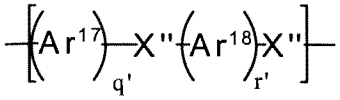
and one or more of the repeating unit substantially not having the ion exchange group chosen from the general formula (1b) to (4b),



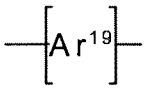
(1b)



(2b)



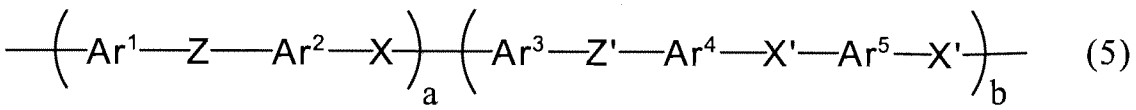
(3b)



(4b)

(wherein Ar^{11}-Ar^{19} represent a divalent aromatic carbon ring, which may have a substituent independent of each other. Z and Z' represent either CO or SO_2 independent of each other, whereas X, X' and X''' represent either O or S independent of each other. Y represents a direct bond or a methylene group, which may have a substituent. p' represents 0, 1 or 2, whereas q' and r' represent 1, 2 or 3 being independent of each other.)

3. (Withdrawn) The polymer electrolyte according to claim 1, wherein the polymer electrolyte is represented by the general formula (5) below,



(5)

(wherein Ar^1-Ar^5 represent a divalent aromatic carbon ring which may have a substituent independent of each other, and Z and Z' represent either CO or SO_2 independent of each other, whereas X and X' represent either O or S being independent of each other. When any of Ar^1-Ar^5 does not contain the aromatic carbon ring as a substituent, at least any one of Ar^1-Ar^5 contains the ion exchange group, whereas when any substituent in Ar^1-Ar^5 contains the aromatic carbon ring, at least either one of Ar^1-Ar^5 or the aromatic carbon ring contained has the ion exchange group in the aromatic carbon ring. The number of the repeating unit, a and b, represent an integer larger than 0, respectively and a + b is larger than 20.)

4. (Previously Presented) The direct methanol-type fuel cell of Claim 1, wherein the aromatic condensed polycyclic carbon ring is the two-ring to four-ring aromatic condensed polycyclic carbon ring.

5. (Previously Presented) The direct methanol-type fuel cell of Claim 1, wherein the ion exchange group is the acid group.

6. (Previously Presented) The direct methanol-type fuel cell of Claim 5, wherein the acid group is any one of the sulfonic acid group, sulfoneimide group, phosphonic acid group and carboxylic acid group.

7. (Previously Presented) The direct methanol-type fuel cell of Claim 1, wherein the ion exchange capacity ranges from 0.1 to 4 meq/g.

8. (Previously Presented) The direct methanol-type fuel cell of Claim 1, wherein the polymer electrolyte comprises one or more of a block having the acid group and one or more of a block substantially not having the acid group, respectively.

9. (Previously Presented) The direct methanol-type fuel cell of Claim 8, wherein the block substantially not having the acid group contains the aromatic condensed polycyclic carbon ring.

10. (Withdrawn) A polymer electrolyte composition by using the polymer electrolyte according to Claim 1 as an effective component.

11. (Withdrawn) A polymer electrolyte membrane comprising the polymer electrolyte according to Claim 1.

12. (Withdrawn) The polymer electrolyte membrane comprising the polymer electrolyte composition according to Claim 10.

13. (Withdrawn) The polymer electrolyte membrane for a direct methanol-type fuel cell comprising the polymer electrolyte according to Claim 1.

14. (Withdrawn) The polymer electrolyte membrane for a direct methanol-type fuel cell comprising the polymer electrolyte composition according to Claim 10.

15. (Withdrawn) A solid polymer fuel cell comprising the polymer electrolyte according to Claim 1.

16. (Withdrawn) The solid polymer fuel cell comprising the polymer electrolyte composition according to Claim 10.

17. (Withdrawn) The solid polymer fuel cell comprising the polymer electrolyte membrane according to Claim 11.

18. (Withdrawn) A direct methanol-type fuel cell comprising the polymer electrolyte according to Claim 1.

19. (Withdrawn) The direct methanol-type fuel cell comprising the polymer electrolyte composition according to Claim 10.

20. (Withdrawn) The direct methanol-type fuel cell comprising the polymer electrolyte membrane according to Claim 11.